

Research Bulletin

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Client/Server Computing Drives Increases in IT Training Activity

Recent INPUT research in Europe shows that most large IT sites plan to move, or have moved, to an open systems environment of which client/server computing is a major feature.

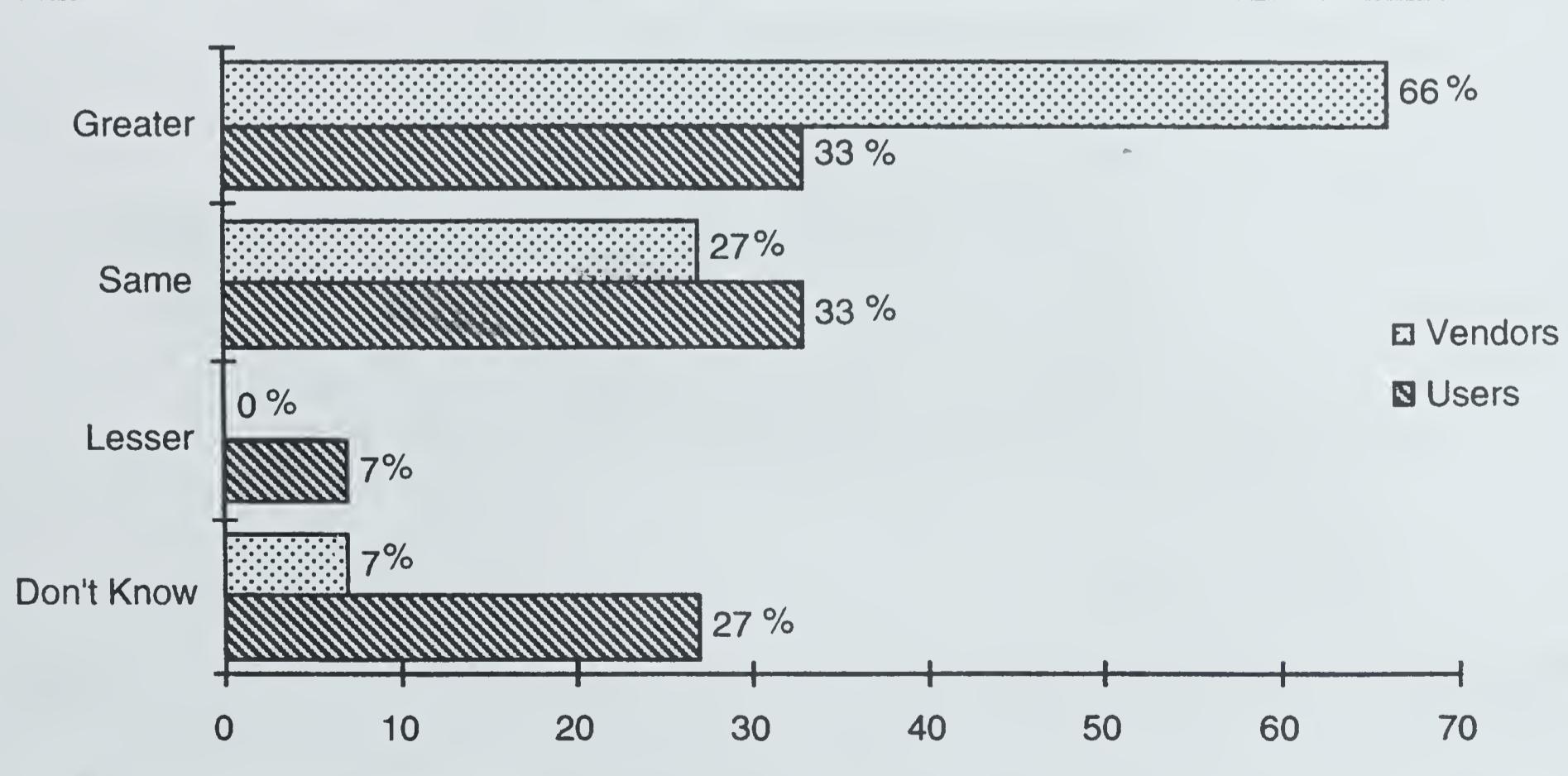
The adoption of client/server computing obliges users to face more extensive re-

skilling issues than they have experienced when adopting previous new technologies.

Exhibit 1 contrasts user and vendor views of the re-skilling challenge.

Exhibit 1

Vendor and User Views of Extent of Client/Server Reskilling Challenge when Compared with Previous Reskilling Exercises



Sample of 15 IS Managers, 13 Vendors, Europe

Source: INPUT

Vendors Convinced of the Size of the Reskilling Challenge

Nearly all vendors have a considered view on the extent of the reskilling challenge. This reflects the vendors' need at all times to consider market trends and, where possible, to gear up to take advantage of any opportunities that present themselves. No vendor believed that the challenge was less significant than earlier challenges.

This consensus may in part reflect vendors' predisposition to manufacture service opportunities for themselves.

It also reflects the fact that vendors have had more opportunity to consider all the implications of client/server. As a result, vendors are genuinely convinced of the size

and complexity of the reskilling challenge implicit in the introduction of client/server technology.

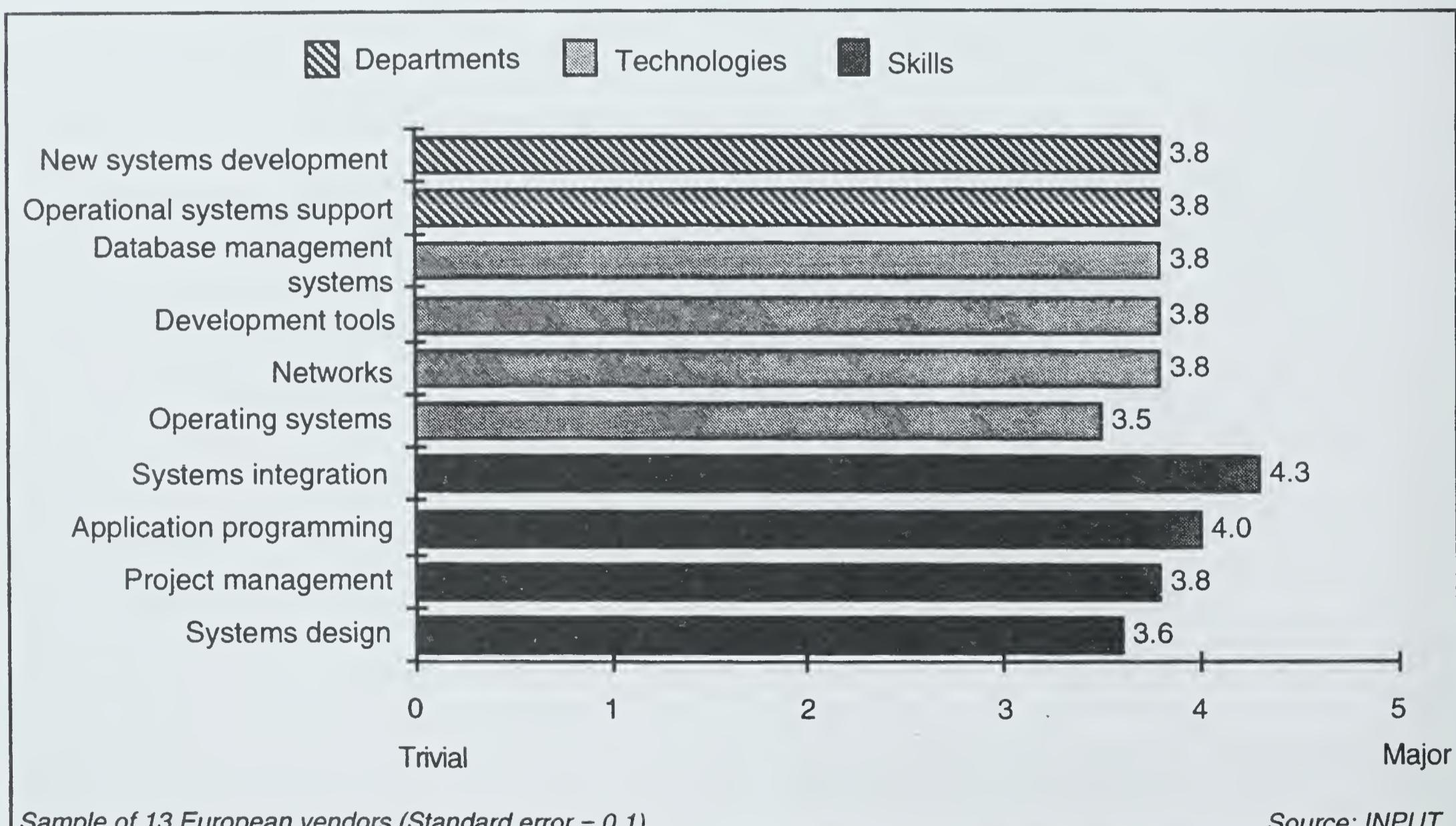
Exhibit 2 lists a number of areas that vendors believe to be significantly affected by the need for reskilling.

Practical experience has shown that issues like connectivity affect many of the areas mentioned in Exhibit 2.

Clearly networks are affected by connectivity issues, but so also is project management, where the task of estimating becomes more complex because of the need to account for the proliferation of connected environments in which projects take place.

Exhibit 2

Vendors' View of Major Areas for Reskilling



Testing is another issue with widespread implications in client/server environments. Experience of the difficulties of testing Graphical User Interface (GUI)-style applications has shown how important is the need to equip programmers and project leaders with new skills if they are to produce robust applications within predictable time frames.

Project Management a Key Task

Project management is a common theme that emerges from many accounts of the complexities of the reskilling challenge. Exhibit 3 shows how project managers are affected by many of the changes that are

brought about by the introduction of client/server.

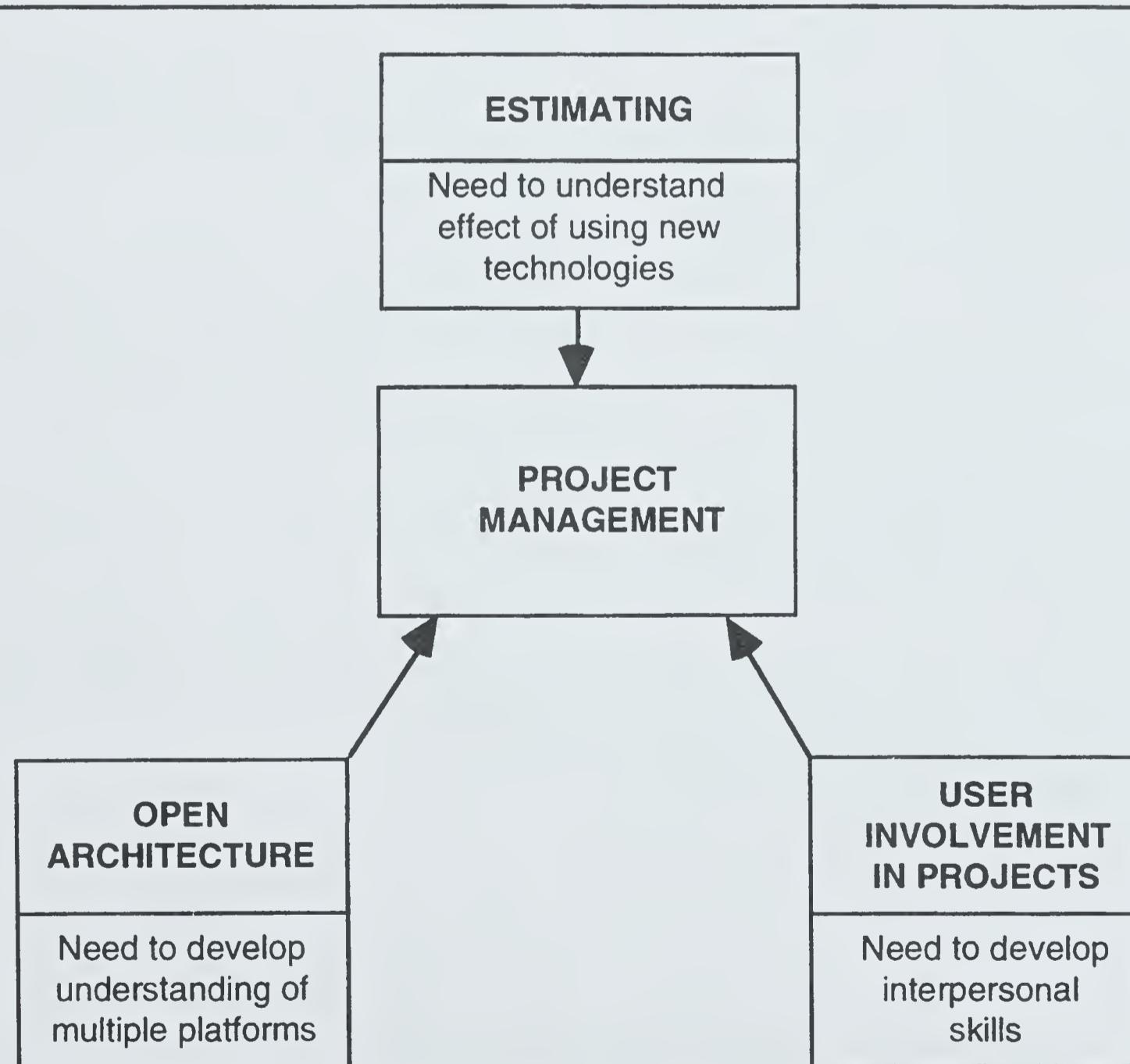
Project managers clearly need to develop sophisticated new skills to meet the challenges associated with the introduction of client/server.

Problems for Mainframe Users

A particular issue that cuts across all reskilling areas is the common user requirement to take staff who have been used to a mainframe environment and prepare them for the more open and more varied client/server environment.

Exhibit 3

Project Management Implications



Source: INPUT

One user questioned in a recent INPUT survey commented:

“We are finding that people from mainframe type development backgrounds are not well equipped for the complexities and protected environments of networks, of those we've tried to re-skill it may be less than a 50% success rate.”

This problem should not be underestimated. INPUT has observed that some users are circumventing it by using new or relatively inexperienced staff for client/server projects. What such people lack in experience, they make up for by an absence of preconceptions.

Users have Some Concerns

Many users do not have a view on the extent of the reskilling challenge. This is because many have determined on client/server as a future direction, but have not yet started their migration.

The majority of users who have a view on the challenge believe that in extent and complexity it equals or exceeds previous challenges.

Users who see a bigger challenge make comparisons with the move to fourth-generation languages (4GLs) and to Computer Aided Software Engineering (CASE) tools. They believe that client/server has wider implications.

Users note that client/server is closely related to a number of other emerging technologies, each with its own reskilling needs.

These other technologies often have a key role to play in client/server development projects. Among topics frequently mentioned by client/server users and vendors are:

- Object Engineering (OE) and Object-Oriented (OO) programming
- Event-driven programming.

Each of these topics requires a major learning curve in itself. Taken together with client/server, they indicate a major re-skilling challenge to users.

An Opportunity and a Challenge

Clearly, there is a major reskilling issue associated with client/server.

For users, there is the need to come to terms with a wide range of new skills and techniques.

For vendors, there is the need to develop comprehensive training portfolios that meet user needs.

Both users and vendors are conscious of the extent of the challenge, and there is an encouraging air of realism about their attitudes towards the challenge.

Vendors will reap major revenues from client/server training programmes.

Users will re-engineer their businesses by applying the new techniques they are learning.